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PTO/SB/01 (10\_00)

Approved for use through 10/31/2002. OMB 0651-0035

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)</b>  <input checked="" type="checkbox"/> Declaration Submitted with Initial Filing  <input type="checkbox"/> Declaration Submitted after initial Filing (surcharge (37 CFR 1.16(e)) required)	<b>Attorney Docket Number</b>	BP3186
	<b>First Named Inventor</b>	Jason A. Trachewsky
	<b>COMPLETE IF KNOWN</b>	
	<b>Application Number</b>	
	<b>Filing Date</b>	
	<b>Group Art Unit</b>	
	<b>Examiner Name</b>	

As a below named inventor, I hereby declare that:

My residence, mailing address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

ORTHOGONAL NORMALIZATION FOR A RADIO FREQUENCY INTEGRATED CIRCUIT

the specification of which

(Title of the Invention)

☒ is attached hereto

OR

☐ was filed on (MM/DD/YYYY)

as United States Application Number or PCT International

Application Number

and was amended on (MM/DD/YYYY)

(if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checkign the box, any foreign application for patent or inventor's certificate, or any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Applications Numbers(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?	
				YES	NO
			<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				<input type="checkbox"/>	<input type="checkbox"/>

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

I hereby claim the benefit under 35 U.S.C. 119 (e), 120, or 365 (c) of any U.S. or PCT application(s) listed below.

Application Numbers(s)	Filing Date (MM/DD/YYYY)	<input type="checkbox"/> Additional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

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+

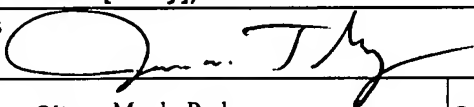
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## DECLARATION - Utility or Design Patent Application

Direct all correspondence to:		<input checked="checked" type="checkbox"/> Customer Number or Bar Code Label	34,399	OR	<input type="checkbox"/> Correspondence address below
Name Timothy W. Markison					
Address P.O. Box 160727					
Address					
City Austin		State TX		ZIP 78716-0727	
Country USA		Telephone (512) 342-0612		FAX (512) 342-1674	
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.c. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.					
NAME OF SOLE OR FIRST INVENTOR:		<input type="checkbox"/> A petition has been filed for this unsigned inventor			
Given Name (first and middle [if any])		Jason A.		Family Name or Surname Trachewsky	
Inventor's Signature 				Date 12/21/03	
Residence: City Menlo Park		State CA		Country USA	
Citizenship US					
Mailing Address 127 Hillside Avenue					
Mailing Address					
City Menlo Park		State CA		ZIP 94025	
Country USA					
NAME OF SECOND INVENTOR:		<input type="checkbox"/> A petition has been filed for this unsigned inventor			
Given Name (first and middle [if any])		Alan		Family Name or Surname Corry	
Inventor's Signature				Date	
Residence: City Santa Clara		State CA		Country USA	
Citizenship USA					
Mailing Address 900 Pepper Tree Lane #621					
Mailing Address					
City Santa Clara		State CA		ZIP 95051	
Country USA					
<input type="checkbox"/> Additional inventors are being named on the _____ supplemental Additional Inventor(s) sheets(s) PTO/SB/02A attached hereto.					

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Address P.O. Box 160727					
Address					
City Austin		State TX		ZIP 78716-0727	
Country USA		Telephone (512) 342-0612		FAX (512) 342-1674	
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.c. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.					
NAME OF SOLE OR FIRST INVENTOR:		<input type="checkbox"/> A petition has been filed for this unsigned inventor			
Given Name (first and middle [if any])		Jason A.		Family Name or Surname Trachewsky	
Inventor's Signature				Date	
Residence: City Menlo Park		State CA		Country USA	
Citizenship		US			
Mailing Address 127 Hillside Avenue					
Mailing Address					
City Menlo Park		State CA		ZIP 94025	
Country		USA			
NAME OF SECOND INVENTOR:		<input type="checkbox"/> A petition has been filed for this unsigned inventor			
Given Name (first and middle [if any])		Alan		Family Name or Surname Corry	
Inventor's Signature <i>Alan Corry</i>				Date 1/13/2004	
Residence: City Santa Clara		State CA		Country USA	
Citizenship		USA			
Mailing Address 900 Pepper Tree Lane #621					
Mailing Address					
City Santa Clara		State CA		ZIP 95051	
Country		USA			
<input type="checkbox"/> Additional inventors are being named on the _____ supplemental Additional Inventor(s) sheets(s) PTO/SB/02A attached hereto.					

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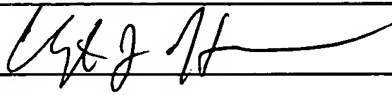
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<b>NAME OF THIRD INVENTOR:</b>		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
<b>Given Name</b> (first and middle [if any]) Christopher J.		<b>Family Name</b> or Surname Hansen	
<b>Inventor's Signature</b> 		<b>Date</b> 12/31/03	
<b>Residence: City</b> Sunnyvale	<b>State</b> CA	<b>Country</b> USA	<b>Citizenship</b> US
<b>Mailing Address</b> 1638 Heron Avenue			
<b>Mailing Address</b>			
<b>City</b> Sunnyvale	<b>State</b> CA	<b>ZIP</b> 94087	<b>Country</b> USA
<b>NAME OF FOURTH INVENTOR:</b>		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
<b>Given Name</b> (first and middle [if any])		<b>Family Name</b> or Surname	
<b>Inventor's Signature</b>		<b>Date</b>	
<b>Residence: City</b>	<b>State</b>	<b>Country</b>	<b>Citizenship</b>
<b>Mailing Address</b>			
<b>Mailing Address</b>			
<b>City</b>	<b>State</b>	<b>ZIP</b>	<b>Country</b> USA
<b>NAME OF FIFTH INVENTOR:</b>		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
<b>Giv n Name</b> (first and middle [if any])		<b>Family Name</b> or Surname	
<b>Inventor's Signature</b>		<b>Date</b>	
<b>Residence: City</b>	<b>State</b>	<b>Country</b>	<b>Citizenship</b>
<b>Mailing Address</b>			
<b>Mailing Address</b>			
<b>City</b>	<b>State</b>	<b>ZIP</b>	<b>Country</b>

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## POWER OF ATTORNEY OR AUTHORIZATION OF AGENT

Application Number	
Filing Date	
First Named Inventor	Jason A. Trachewsky
Group Art Unit	
Examiner Name	
Attorney Docket Number	BP3186

I hereby appoint:

☒ Practitioners at Customer Number

34,399

Place Customer  
Number Bar Code  
Label Here

OR

☐ Practitioner(s) named below:

Name	Registration Number
Timothy W. Markison	33,534
Bruce E. Garlick	36,520
James A. Harrison	40,401
Shayne X. Short, Ph.D.	45,105

as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.

Please change the correspondence address for the above-identified application to:

☒ The above-mentioned Customer Number.

OR

☐ Firm or  
Individual Name

Timothy W. Markison

Address

P.O. Box 160727

Address

City

Austin

State

TX

Zip

78716-0727

Country

USA

Telephone

(512) 342-0612

Fax

(512) 342-1674

I am the:

☐ Applicant/Inventor.

☒ Assignee of record of the entire interest. See 37 CFR 3.71  
Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96).

### SIGNATURE of Applicant or Assignee of Record

Name

Signature

Date

title:

**NOTE:** Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.  
Submit multiple forms if more than one signature is required, see below\*.

☒ \*Total of 1 forms are submitted.

SEND TO: Assistant Commissioner for Patents,  
Washington, DC 20231



BP3186

**BROADCOM CORPORATION**  
16215 Alton Parkway  
Irvine, California 92618

Phone: 949-450-8700  
Fax: 949-450-8710

May 20, 2003

To whom it may concern:

I, Henry Samueli, hereby authorize Dee Henderson, Intellectual Property Portfolio Manager, to execute documents relating to US and foreign patent and trademark matters on behalf of Broadcom Corporation and/or its subsidiaries.

A handwritten signature in cursive script, appearing to read 'H Samueli'.

Henry Samueli, Ph.D.  
Chief Technical Officer and Co-Chairman

**Certificate Under 37 CFR 3.73(b)**

Applicants: Jason A. Trachewsky Alan Corry Christopher J. Hansen

Entitled: **ORTHOGONAL NORMALIZATION FOR A RADIO FREQUENCY INTEGRATED CIRCUIT**

Application No.

Filing Date:

**Broadcom Corporation**

(Name of Assignee)

**a, California Corporation**

(Type of Assignee)

states that it is :

1. ☒ the assignee of the entire right, title, and interest; or
2. ☐ an assignee of an undivided part interest

in the patent application/patent identified above by virtue of either :

- A. ☒ An Assignment for the inventor(s) of the patent application/patent identified above. The assignment was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

OR

- B. ☐ A chain of title for the inventor(s) of the patent application/patent identified above to the current assignee as shown below:

1. From \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
2. From \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
3. From \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

- ☒ Copies of assignments or other documents in the chain of title are attached.

[NOTE: A separate copy (i.e., the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the PTO. See MPEP 302-302.8]

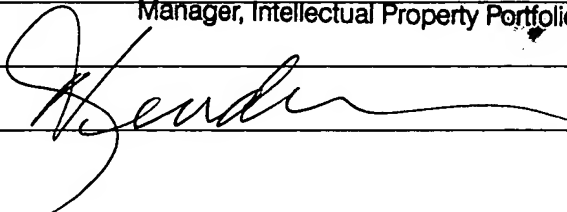
The undersigned (whose title is supplied below) is empowered to act on behalf of the assignee.

Date: \_\_\_\_\_

Name: **Dee Henderson**

Manager, Intellectual Property Portfolio

Title: \_\_\_\_\_

Signature: 

## ASSIGNMENT

**WHEREAS**, the undersigned inventors, hereinafter called the "Assignors", have invented a new and useful invention entitled:

### ORTHOGONAL NORMALIZATION FOR A RADIO FREQUENCY INTEGRATED CIRCUIT

for which reference a full description is here made in an application for Letters Patent of the United States filed herewith.

**WHEREAS**, **Broadcom Corporation**, a USA company having a principal office and place of business at, 16215 Alton Parkway Irvine California 92618-7013 hereinafter called the "Assignee", is desirous of acquiring the entire right, title and interest in and to said invention, the application above identified, and in, to and under Letters Patent which may be obtained for said invention, as hereinafter more fully set forth;

**NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN**, be it known that for valuable legally sufficient consideration, the receipt of which by the Assignors from the Assignee is hereby acknowledged, the Assignors have sold, assigned and transferred, and by these presents do sell, assign and transfer unto the Assignee, its successors and assigns, the entire right, title and interest in and to the invention and the application herein above identified, and all Letters Patents that may issue for the said invention, and all division, reissues, substitutions, continuations, and extensions thereof, to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns to the full end of the term for which any and all of said Letters Patents for the said invention may issue.

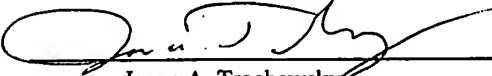
**FURTHER**, be it known that the Assignors have sold, assigned and transferred, and by these presents do sell, assign and transfer unto the Assignee, its successors and assigns, the entire foreign rights to the invention disclosed in said application, in all countries of the world, including the right to file applications and obtain patents under the terms of the International Convention, and further agrees to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such patent rights.

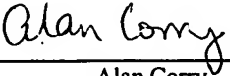
And the Assignors do hereby covenant and agree, for themselves and their legal representatives, that they will assist the Assignee in the prosecution of the application herein identified; in the making and prosecution of any other applications for Letters Patent that the Assignee may elect to make covering the invention herein identified, as herein before set forth, including any application for reissue, application for reexamination, application for foreign patent rights, or any proceeding in the United States Patent and Trademark Office affecting the invention, investing in the Assignee exclusive title in and to all such other applications and Letters Patent; and in the prosecution of any interference which may arise involving said invention, or any application or Letters Patents herein contemplated; that they will promptly execute and deliver to the Assignee any and all additional

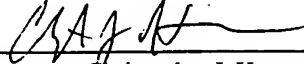
papers and make all lawful oaths which may be requested by the Assignee to fully carry out the terms of this assignment; and further that they will communicate to Assignee, or to its successors, assigns, and legal representatives, and facts known respecting said invention, and at the expense of the Assignee, testify in any legal proceedings, and generally do everything possible to aid the Assignee, its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.

And the Commissioner of Patents and Trademarks is hereby authorized and requested to issue all Letters Patent to the Assignee in accordance with the terms of the assignment.

IN TESTIMONY WHEREOF, the Assignors have hereunto set their hands on the date indicated below.

  
Jason A. Trachewsky      12/31/03  
date

  
Alan Corry      12/17/2003  
date

  
Christopher J. Hansen      12/31/03  
date

\_\_\_\_\_  
date

\_\_\_\_\_  
date

\_\_\_\_\_  
date